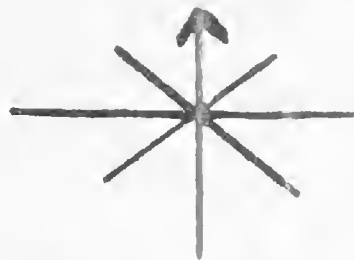


SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

PBS

DATE 18 Apr 1966
Pg. # 1



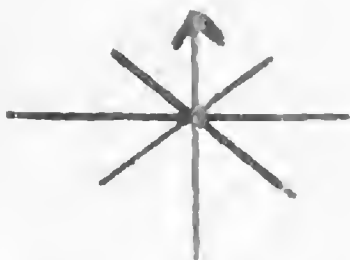
Norbs. Pearl Harbor

	time	species	#	dir.	hgt.	remarks	loc.
	1700	Pomarine Jaeger	1	@		cleared harbor @ 1630	
F	1706	R-F Booby	13			on the water - 1 immature	
	1702	R-F Booby	4	SE			
	1704	wh				whole	
	1707	Pom Jaeger	1			- light	
	1710	Pom Jaeger	1			- intermediate	
	1712	Sooty tern	3	SE			
	1718	R-F Booby	2	SE		Adults	
TF	1722	R-F Booby	7	SE		off Wake: K:	
	1724	Wedge tail	4	SE		light Phase	
	1724	Pom Jaeger	1	S		dark Phase	
	1730	Wedge tail	1	E		light Phase - having some white on the back of wings - no / f.?	
	1732	R-F Booby	2	E		Ad	
TF	1734	Sooty tern	12	E			
		C. Noddy tern	2				
		Wedge tail	1			light	
TF	1737	Sooty tern	6				
	1738	Wedge tail	3			light Phase	
	1738	Sooty tern	2				
	1738	R-F Booby	2			Ad	
	1738	Wedge tail	4			light	
	1742	"	3			light	
TF	1743	Sooty tern	7				
		CAL. Noddy tern	1				
	1744	Wedge tail	3			light	
	1750	Sooty tern	3				
	1750	Wedge tail	4			light	
FF	1754	R-F Booby	4				
		Wedge tail	2				
		Sooty tern	3				

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

200

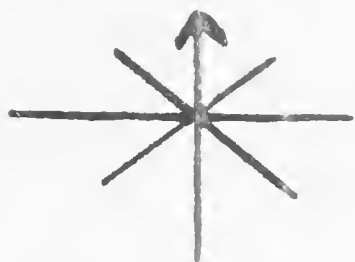


DATE 18 April 1966
Pg. # 2

	time	species	#	dir.	hgt.	remarks	loc.
	1750	Sooty tern	2				
	1750	" "	3				
	1750	" "	4				
	1750	Wedgetail	4			light phase	
	1800	Sooty tern	1				
	1802	Wedgetail	10			Not associated in flock	
	1807	Wedgetail	5			not flocked	
	1807	Sooty tern	8			Not associated in flock	
	1807	Br. Booby	1			immature	
	1807	R-F Booby	3			ad.	
TF	1810	Sooty tern	7				
	1815	Sooty tern	8			not flocked	
FF	1815	R-F Booby	11				
		Br. Booby	1				
		Wt Shear.	15				
		Sooty tern	10				
FF	1816	Sooty tern	5				
	1817	Wedgetail	4			4 light phase	
TF	1822	R-F Booby	6			5 Ad. / 1 imm.	
	1822	Wedgetail	4			3 light : 1 dark.	
	1822	Sooty tern	1				
	1823	R-F Booby	3				
	1823	Br. Booby	1			flashing together.	
	1825	Wedgetail	7				
TF	1828	R-F Booby	6			not flocked - 6 light : 1 dark	
	1830	Sooty Shear	1	NE		heading around Mahanui Pt.	
	1833	Sooty tern	3	NE			
	1833	Wedgetail	1	NE		dark	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

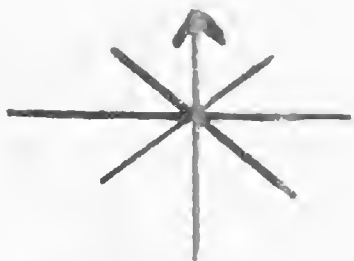


DATE 18 April 1966
Pg. #

	time	species	#	dir.	hgt.	remarks	loc.
	1835	Wedgetail	4	NE			
FK	1837	Wedgetail	3	NE			
		R-F Booby	2				
		Sooty tern	5				
	1838	Common Noddy	3				
		tern.					
	1839	Wedgetail	4			1/2 lt Phis	
	1842	Wedgetail	1			1/2 lt.	
	1842	Noddy tern	1				
	1842	B-F Albatross	1			Following ship.	
	1850					Sun Set	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG — E



Noon Pos. $22^{\circ}54'155^{\circ}05'W$

DATE 19 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0630	—	—	—	—	begin Obs.	
0645	0648 Shear-Pet	2	N		either Wedge-tail or J F Pet.	
	0655 Sooty Tern	2	N		Ad.	
	0705 Shear Pet	1	NW			
	0720 R-T Tropicbird	1			following ship	
	0720 P. externa	1	NE			
	0724 Wedgetail	1			light phase	
	0726 Wedgetail	1			" "	
	0728 Shear-Pet	1			fast and dark possible sooty/s/b.	
	0752 Shear-Pet	1			" " "	
	0754 Shear-Pet	1			Wedge-tail or J F P.	
	0815 Shear Pet	1			" " "	
	0817 Pterodroma	1				
FF	0825 Sooty Tern	14				
	Wedge-tail	2			light	
	R-F Booby	1			imm - Subad.	
	Sooty Shear	1			is feeding with flock. the	
	0840 Shear Pet	2			underwings are not real being lt, but	
	0842				I think it is a Sooty. (casty)	
	0845 Wedgetail	2			Squall / so formed around us 20 minutes	
	0847 Wedgetail	1			ago. 2 to dark and windy.	
CC	0922 Sooty Tern	25+			light phase	
	Wedge-tail	5			dark phase.	
	0925				in heavy squall	
	0940				heavy squall	
	0940 Wedgetail	1	NE		light phase	
	0945 Wedgetail	2	NE		light phase	
	0946 Sooty Tern	2				
	0948 Wedgetail	1	NE			
	0952 B-F Albatross	1			following ship	
	0956 " "	1			" "	
	1025 Wedgetail	1				

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 19 June 1964
Pg. # 2

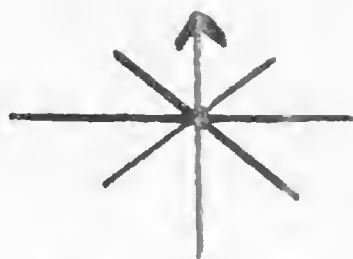
time	species	#	dir.	hgt.	remarks	loc.
1050	Lendystre	1				
1050	^{S.P.} Sooty Shearwater	1	SE			
1122					More observations for noon.	
1225					begin obs.	
1225	B-F Alb. bat.	3			Following ship.	
1230	G. Frigatebird	1				
1235	Wedge-tail	1	NE			
1245	Shearwater	1	NE			
1300	Lendystre Pet.	1	SE			
1302	Shearwater	1	NE		Dark.	
1325	Lendystre	1				
1330	B-F Alb. bat.	3				
1352	Wedge-tail	1			1:7 h t	
1357	W-TTB					
1530	Lendystre	1				
1545	R-TTB	1				
1630					resume	
1730					resume	
1800	B-F Alb. bat.	2			Following ship	
1840	SS					

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

PBS

DATE 20 April 1966
Pg. # 1

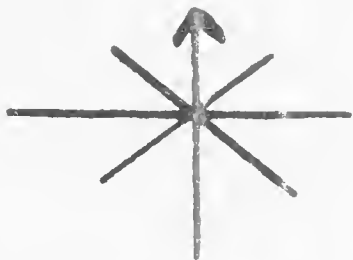


Noon Pos. $25^{\circ}05'N$ $151^{\circ}32'W$

time	species	#	dir.	hgt.	remarks	loc.
0638	Begin	Observation				
0630	B-F Albatross	5			following ship.	
0645	Turkishbird	1				
0710	Shear-Pet	2	NNW		possible Sooty/S/B - but front in a	
0717	Leach's-type	1				
0720	Sooty/S/B	1	NNW		following squall.	
0727	Sooty Shearwater	1	SS		following ship.	
0740					just flying back - clear white underwing	
0742	Sooty Shear.	2	NNW		was in another good squall for 15 min.	
0747	Storm Pet	1				
0840					more squalls for the last 1/2 hr.	
0845	Sooty Shearwater	1	NNW			
0849	Shear-Pet	1	NNW		for out - possible Sooty/S/B	
0855	B-F Albatross	1			total of 6 following ship.	
0920						
1030	Sooty Shearwater	1	NNW		Squall again - been in it for 10 min and still plenty to go.	
1117	Shear-Pet	1	SS			
1130						
1230					Dinner	
1300	Laysan Albatross	1			continue obs.	
1332	Sooty Shear	2	NNW		following ship	
1410	Shear Petrel	1	NW		way out again	
1505	Anctic tern	1			near fishing boat - may have been sitting on it.	
1505	Laysan Albatross	1			I.d. Positive	
1515	Storm Petrel	1			following ship	
1530	B-F Albatross	1			total of 7 following ship	
1605	Sooty Shearwater	1	N		underwing seen well	
1610	Sooty Shearwater	2	N			
1617	Sooty Shearwater	2	N	2		
1622	Sooty Shearwater	1	N			
1630					Supper	
1645					resume	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 20 April 1966
Pg. # 2

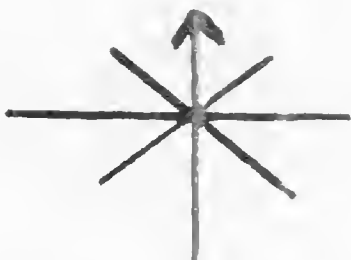
time	species	#	dir.	hgt.	remarks	loc.
1700	Sooty Shearwater	2	N			
1705	Laysan Albatross	1			total of 3 following ship.	
1750	B-F Albatross	6			Just dumped dinner garbage - they came from	
1830	cease observation.				no where.	

Plus life




SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



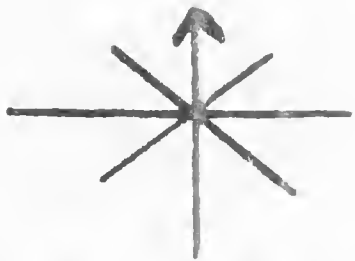
Noon Posit: 27° 00'N 148° 04'W

DATE 21 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0630					begin obs.	
0630	B-F A/batons	2				
0648	B-F A/batons	1				
0652	Sooty Shearwater	1	NE		from wind & down out this bird was not arising.	
0720					Whale 40+ ft.  the dorsal looked large and square cornered.	
0750	B-F Albatross	2				
0930	Sooty Shearwater	1	N			
1000	Sooty Shearwater	1	N		Seen well - flew very close to the ship	
1015						
1105					luncheon	
1133	Sooty Shear	1	N		resumed	
1145	Sooty Shear	1	N			
1152	Tern sp.	2	N		possible Arctic terns	
1238	Heaviside's type Storm Pet.	1				
1310	B-F A/batons	2			total 3 7 for morning ship	
1335	Shear Pet	1	N			
1430	Long Sun Albatross	2				
1505	Sooty Shear	1	N			
1530					close	
1545					Resumed watch	
1555	Sooty Shear	1	N		winning 1st underwing	
1610	Sooty Shear Pet	3	SE		Sooty/S/b. - Had relatively dark underwing. seen well with sun at my back.	
1635	Sooty/S/b	1	N			
1642	Sooty/S/b	2	N			
1800					close obs.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Posn: 29°08'N 144°35'

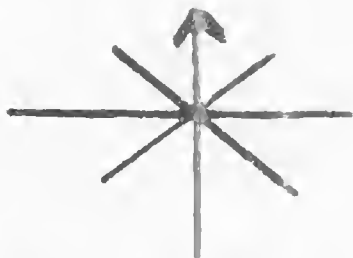
DATE 22 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0645						
0630					Begin Observations	
0708	B-F Albatross	3				
0750	B-F Albatross	5			total of 8 -	
0759					one of the 8 B-F Albatross is banded - seen when they came in on track dived and forlaid	
1200	LARGE RED BLACK-LEG BAT	3	000	6"	at 504!!! - The helpful crew of the 39! ???!! *..!	
1224	Sooty Shear	1	N			
1225	Laysan Petrel S.P. Storm Petrel	2	SE		white mark	
1230					one of above Storm Petrel was seen closely -	
1325	Laysan Albatross	1			It could be a Hancock's S.P.	
1340	Sooty Shearwater	1	N			
1342	Laysan P.	1	SE			
1425	Sooty Shear	1	W			
1610	Pomarine Jaeger	1	N			
1615	Sooty Shearwater	1	N			
1618	Laysan Petrel	1				
1655	Laysan Petrel	1				
1754	Sooty Shearwater	1	N			
1815	Laysan Petrel	1				
1845	Pom. Jaeger	1				
1855	Laysan type	1				
1905	Sunset					

11:15 - 12:00 - Remains
16:30 - 16:45 - Same.

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



Noon Posit: 31°10'N 140°-45'W

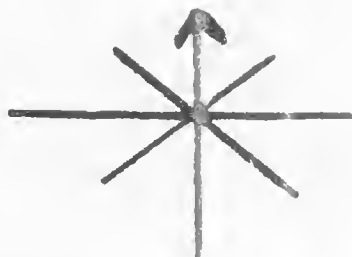
DATE 23 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0700	Begin obs.					
0705	B-F Albat.	1			following ship	
0730						
0830					In a storm front with lots of still in storm. rain & reduced visibility	
0840	Leach's type	1	S		Birds look like Leach's	
1045	Storm Pet. sp.	1	N			
1115	Shear-Pet	1	N		possible Sooty Shear	
1130						
1230					secure for dinner	
1240	Leach's type	1	N		resume obs.	
1242	" "	3	N			
1250	R-TTropic bird	1	N		over ship	
1312	Leach's Petrel	1	N			
1338	Shearbird sp.	1	N		light underwing	
1345	Shear Pet	1	N		possible Sooty Shear.	
1445	B-F Albatross	1			total of 2 following ship	
1455	Leach's type	1	N			
1430	B-F Albat.	1			total of 3	
1650	Sooty Shearwater	1				
1650	Leach's Petrel	1				
1705	Sooty Shear	1	880			
1725	Leach's Pet	1	N			
1815	Tern sp.	1	N		light grey top of wing & breast back - white	
1845	Long Eared Albatross	1			under parts with forked tail - Hand not seen - Probable Arctic Tern. flying due north	
1854					Sunset	



SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



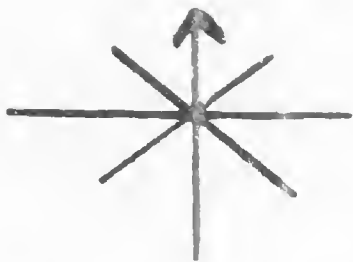
Noon Posit: $32^{\circ}38'N$ $136^{\circ}54'W$

DATE 24 April 1966
Pg. #

time	species	#	dir.	hgt.	remarks	loc.
0700	Booby	Obs.				
0715	B-F Albat.	1				
0730	Storm Pet	1	N		white rump -	
0805	Storm Pet	1	N		" "	
0900	B-F Albat.	1			2 following ship	
0928	Storm Pet	1	N		white rump.	
0935	Storm Pet	1	N		dark - possible Sooty Shear. - but way off	
1030					Lunch	
1110 1115					resume Obs.	
1145	Storm Pet	1	SSS			
1210	B-F Albat.	1			3 following ship	
1650	B-F Albat.	4			7 " " - just dumped garbage and in they came.	
1815	Laysan Albat.	1				
1900					close Obs.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



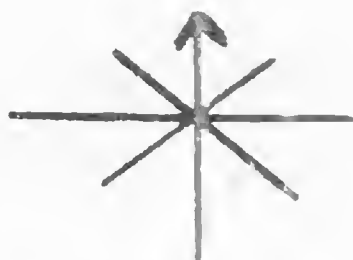
Noon Posit: $34^{\circ}25'N$ $132^{\circ}38'W$

DATE 25 April 1966
Pg. # 1

time	species	#	dir.	hgt.	remarks	loc.
0700	begin obs.					
0705	B-F Albat.	1			Following ship.	
0820	Storm Petrel	1			more not seen	
0925	Sooty Shear-Pet	1	88		Probable Sooty Shear - distant see underlying	
0950	B-F Albat.	1			2 Following ship.	
1115					Watch resumed for Dinner	
1215					resume obs.	
1530	B-F Albat.	2			Total of 4	
1820	B-F Albat.	1			11 of 5	
1835	Sooty Shear	1	88		Seen well. The bird circled the bow and then began following a B-F Albatross. It followed it for over a minute flying about the ship.	
1900					close observation.	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 26 April 1966
Pg. # 1

Noon Posit: $35^{\circ}46'N$ $128^{\circ}55'W$

time	species	#	dir.	hgt.	remarks	loc.
0700					Begin Obs.	
0705	B-F A/b. tern	1			Following ship	
0820	B-F albatross	2			3 Following ship	
1000	Storm Petrel	1	SSW		white rump.	
1008	Sooty Shear	1	SW			
1020	Shear Pet	1	SSW		possible Sooty	
1021	Pterodroma	1	SE		P. hypoleuca - sized bird. White underwing that are nearly if not entirely white (little or no dark border). Dark cap and dark tail of P. leucosterna not seen. Didn't look right for black winged Pet.	
1032	Pterodroma	1	SSW			
1042	Pomarine Jaeger	1	N			
1115	Sea + Storm Petrel	1	SSW		white rump	
1220-1225					divers	
1225	Storm Petrel	1	W		white rump	
1330	Pomarine Jaeger	1	N			
1340					Seas have continued to build all day, are now reaching 15-18 ft. Sky is clearing - probably a high pressure area.	
1540	Herring Gulls	2			over ship (1 Ad and 1 subadult). The subadult has the light tail and shows dark only around neck.	
1555	B-F A/b. tern	4			7 Following ship	
1708	B-F A/b. tern	1			8 " "	
1710	Sooty Shear	1	W		seen well	
1720	B-F A/b. tern	4			12 Following ship	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E

Determined by D.K. Fox-Pearson

DATE 27 April 1966
Pg. # 1



No on Pos. +

time	species	#	dir.	hgt.	remarks	loc.
0730	Bergin				observed	
0730	Herring gull	2			over ship - 1 Adult; 1 first year bird.	
0730					Weather: Sea up from yesterday - 18-22'.	
0815	B-FA/b.t.	5			Sky is clear; temp 50°F; Barometric pressure 30.06	
0825	Sooty Shear	4			water	
					feathering in a northerly direction	
0840	Herring gull	2			Ad. Now 4 following ship.	
0850	Herring gull	3			1 Ad 2 imm total 7	
0901	Herring gull	10			total 7	
0905	Sooty Shear	2			SW	
0910	Larus sp.	8			on 10th.	
0915	Pomarine Jaeger	1			SW	
0920	Shear bird	2			trying to peak against the wind but failed	
0920	Sooty Shear	2			SW	
0925	Sooty Shear	1			N	
					backing wind.	
0942	Sooty Shear	4			N	
0945	" "	2			N	
0950	Sooty Shear	3			N	
0952	Sooty Shear	2			N	
0958	Sooty Shear	1			N	
1010	Sooty Shear	2			N	
					Feathering	
1020	Jaeger sp.	1				
1025	1040				coffee break.	
1045	Bird sp.	1			N	
					possible shorebird.	
1052	Larus sp.	1			SW	
					Small with dark and light grey on the back.	
					possible Jaeger or Sabine's Gull	
					B-h Kittiwake	
1120	Sooty Shear	1			N	

SI-MNH-958e
7-28-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA DAILY LOG -- E



DATE 27 April 1966
Pg. # 2

time	species	#	dir.	hgt.	remarks	loc.
1345					Resume	
1355	sabine gull	2	N			
1447	Bird, sp.	1	N			
1450	Sooty Shear	1				
1530	Pinn Seal at Sea - 6 C. / Harris Sea Lion.					
1800	Discontinue obs due to heavy weather - Lower visibility					

DATE 18 April 1966

Time at sunrise = — Position at sunrise = Pearl Harbor

Time at sunset = 1852 Position at sunset = 21-14N ~~155-10W~~
15736

Miles traveled from ~~0000~~ ^{Pearl Harbor} hours to sunrise =

Miles traveled from ~~sunrise~~ ^{Pearl Harbor} to sunset = 16

Miles traveled from sunset to 2400 hours = 62

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>2000</u>	<u>VISUAL</u>	<u>157-23W</u> 21-20	<u>21-20 N</u>
2.				
3.				
4.				
5.				
6.				

DATE 19 April 1966

Time at sunrise = 0559 Position at sunrise = 22-18N 155-56W

Time at sunset = 1840 Position at sunset = 23-32N 154-09W

Miles traveled from 0000 hours to sunrise = 58

Miles traveled from sunrise to sunset = 123

Miles traveled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	<u>0518</u>	<u>CELESTIAL</u>	<u>156-02W</u>	<u>22-14 N</u>
2.	<u>1134</u>	<u>CELESTIAL</u>	<u>155-10W</u>	<u>22-50N</u>
3.	<u>C/C AT</u>	<u>1230 TO 0550</u>	<u>155-00W</u>	<u>22-57N</u>
4.	<u>1900</u>	<u>CELESTIAL</u>	<u>154-07W</u>	<u>23-34N</u>
5.				
6.				

DATE 20 APRIL 1966

Time at sunrise = 0543 Position at sunrise = 24-30N 152-31W
Time at sunset = 1828 Position at sunset = 25-40N 150-37W
Miles traveled from 0000 hours to sunrise = 51
Miles traveled from sunrise to sunset = 126
Miles traveled from sunset to 2400 hours = 58

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0509	CELESTIAL	152-35W	24-28 N
2.	1200	CORAN	151-32 W	25-05 N
3.	1842	CELESTIAL	150-34 W	25-42
4.	210300	DR.	150-00W	26-05 e/c 058°T
5.				
6.				

DATE 21 APRIL 1966

Time at sunrise = 0626 Position at sunrise = 26-34N 148-53 W
Time at sunset = 1920 Position at sunset = 27-43N 147-05W
Miles traveled from 0000 hours to sunrise = 49
Miles traveled from sunrise to sunset = 120
Miles traveled from sunset to 2400 hours = 48

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0505	CELESTIAL	149-02 W	26-30 N
2.	1249	CELESTIAL	147-54 W 148-44W	27-06 N
3.	1947	CELESTIAL	147-03 W	27-44 N
4.				
5.				
6.				

DATE 22 April 1966

Time at sunrise = 0611 Position at sunrise = 28-34N 145-30W

Time at sunset = 1851 Position at sunset = 29-36N 143-25W

Miles traveled from 0000 hours to sunrise = 51

Miles traveled from sunrise to sunset = 123

Miles traveled from sunset to 2400 hours = 55

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0536	CELESTIAL	145-35W	28-31N
2.	1235	CELESTIAL	144-29W	29-11N
3.	1911	LORAN	143-26W	29-38
4.				
5.				
6.				

DATE 23 April 1966

Time at sunrise = 0651 Position at sunrise = 30-49N 141-38W

Time at sunset = 1850 Position at sunset = 31-39N 139-39W

Miles traveled from 0000 hours to sunrise = 68

Miles traveled from sunrise to sunset = 121

Miles traveled from sunset to 2400 hours = 59

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0643	LORAN	141-41W 141-41W	30-47N
2.	1200	DR	132-45W 140-45W	31-10N
3.	1800	LORAN	137-42W 139-42W	31-32N
4.	0400			
5.				
6.				

DATE 24 APRIL 1966

Time at sunrise = ~~0635~~ Position at sunrise = 32-28N ^{137-49W} ~~129-55W~~
 Time at sunset = ~~1926~~ Position at sunset = 33-10N ¹³⁵⁻³⁰ ~~127-30W~~
 1933
 Miles traveled from 0000 hours to sunrise = 49
 Miles traveled from sunrise to sunset = 126
 Miles traveled from sunset to 2400 hours = ~~55~~ 46

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0619	LORAN	137-52 129-52W 136-55W	32-36N
2.	1200	LORAN	128-55W 136-18W	32-48N
3.	1528	LORAN	125-18W	33-01N
4.	2000	LORAN	135-24 127-24W	33-14N
5.				
6.				

DATE 25 APRIL 1966

Time at sunrise = ~~0611~~ Position at sunrise = ~~33-55N~~ 133-45W
 0611
 Time at sunset = 1926 Position at sunset = 34-46N 131-29W
 Miles traveled from 0000 hours to sunrise = ~~43~~ 52
 Miles traveled from sunrise to sunset = 106
 Miles traveled from sunset to 2400 hours = 50

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0611	LORAN	133-45W	33-55N
2.	1111	LORAN	132-47W	34-21N
3.	1926	LORAN	131-29W	34-46N
4.				
5.				
6.				

DATE 26 APRIL 1966

Time at sunrise = 0546 Position at sunrise = 35-24N 129-54W
 Time at sunset = 1915 Position at sunset = 35-52N 128-00W
 Miles traveled from 0000 hours to sunrise = 39
 Miles traveled from sunrise to sunset = 77
 Miles traveled from sunset to 2400 hours = 33

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0620	LORAN	129-48W	35-24 N
2.	1107	LORAN	129-08W	35-37 N
3.	2000	LORAN/CELES	127-55W	35-55 W
4.				
5.				
6.				

DATE 27 APRIL 1966

Time at sunrise = ⁰⁶³⁹~~0630~~ Position at sunrise = 36-20N 126-42W
 Time at sunset = 2007 Position at sunset = 37-02N 124-34W
 Miles traveled from 0000 hours to sunrise = 36
 Miles traveled from sunrise to sunset = 112
 Miles traveled from sunset to 2400 hours = 34

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0623	CELESTIAL	126-48W 36-48N	36-19N
2.	1036	LORAN	126-06W	36-35N
3.	1945	CELESTIAL	124-37W	3700
4.				
5.				
6.				

DATE 28 April 1966

Time at sunrise = 0677 Position at sunrise = 37-45N 122-36

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise = 60

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.	0600	VISUAL	SAN PAAV	LIGHT SHIP
2.				
3.				
4.				
5.				
6.				

DATE _____

Time at sunrise = Position at sunrise =

Time at sunset = Position at sunset =

Miles traveled from 0000 hours to sunrise =

Miles traveled from sunrise to sunset =

Miles traveled from sunset to 2400 hours =

	TIME OF FIX	TYPE OF FIX	LONGITUDE	LATITUDE
1.				
2.				
3.				
4.				
5.				
6.				

Pelagic Survey
Honolulu to San Francisco
18-28 April 1966

Observations were conducted by R.L. DeLong between Oahu and San Francisco from 18 to 28 April 1966. Nine hundred and twenty miles were covered during 101.9 hours of diurnal observation. A total of 578 birds was observed.

Weather was favorable until late on the 25th. A gale was then encountered and seas were heavy until we reached the coast.

There was little northward migration of Procellarids. The 67 Sooty Shearwaters seen between Oahu and the Coast probably represent late spring migrants. Small numbers of Sabine Gulls, Arctic Terns, and Pomarine Jaegers in migration were observed.

SPECIES ACCOUNTS

Laysan Albatross

Eight birds of this species were recorded. One bird was seen on the evening of the 24th(at about 33-10N 135-30W).

Black-footed Albatross

Black-footed Albatross followed the ship each day. As regular shipping lanes were followed, this was expected. There was a daily pattern of albatross abundance. In the early hours of the day there were few birds following the ship. By early evening a maximum number of birds had appeared. Each day at least some different individuals were present. This leads one to believe that on well traveled areas of sea birds tend to remain in an area rather than following a ship from origin to destination.

One of the Black-footed Albatross seen on the 22nd(4th day out of Honolulu) was banded. The band was on the right leg. The bird was not collected or captured, so only the bands presence was recorded.

Wedge-tailed Shearwater

The 106 birds of this species were recorded the first evening and following day out of Oahu. Eighty-eight birds were recorded the

the first evening, and probably represent breeding birds from Oahu. Only four of the 106 birds were of the dark phase.

Sooty Shearwater

A total of 67 sooties were observed. Migrating birds were seen in greatest numbers closest to the Hawaiian Islands and within 250 miles of the West Coast. The day after leaving Honolulu 16 birds were seen. All but one of these birds were moving in a northerly direction. On the 27th while in the gale 25 sooties were seen. The winds were from the north and were causing the birds some trouble. Several were seen feathering against the wind making little progress. The remainder of the 25 birds were flying directly against the wind.

Less than 40% of the Sooty Shearwaters were seen during the seven day's observation in truly pelagic environment, i.e. away from island or coastal influence. It is possible that this deep-water area is a fringe of the two migration paths (Central Pacific and West Coast), or that the few birds seen during this period represent the end of the spring migration.

A few Sooty Shearwaters/^{were} seen that did not appear to be migrating. One was seen in a feeding flock of Sooty Terns, Wedge-tailed Shearwaters, and a booby. Others were seen flying in various directions. Although this ^{Wandering} is not seen in fall migrants, it is apparently common among spring migrants.

Pterodroma externa

One bird of this species was seen on the 19th. It was not assigned to race.

Pterodroma sp.

Three birds were identified only to this genus. One bird seen on the 26th was a small P. hypoleuca-sized bird. The underwings were white with little or no black borders. The breast and belly were white. It appeared uniformly gray on the top of the head, back, and tail. The only bird I am familiar with these markings is the Black-winged Petrel, but it has the dark bordering the white on the underwings.

Storm Petrel (White-rumped)

Thirty-three storm petrels were recorded. Since no collecting was specific identification is not definite. Most birds appeared to be Leaches Storm Petrels. One bird seen on 22 April had a brilliant white rump patch. This bird could have been a Harcourt's Storm Petrel.

Red-tailed Tropicbird

Three birds of this species were seen.

White-tailed Tropicbird

One bird of this species was observed.

Brown Booby

The three Brown Boobies were seen just off Oahu.

Red-footed Booby

All but one of the 67 Red-footed Boobies were seen along Oahu. One other bird was seen in a feeding flock on the 19th.

Great Frigatebird

One bird of this species was seen on 19 April within 200 miles of Oahu.

Sooty Tern

The 136 Sooty Terns were all seen within 300 miles of Oahu.

Arctic Tern

One bird was positively identified as this species. It was hovering over a glass fishing float. The bird was probably resting on the float and was flushed by the approaching ship. Three other terns that were not specifically identified were probably Arctic Terns. These three birds were flying in a northerly direction.

Common Noddy Tern

Seven noddies were seen just off Oahu.

Herring Gull

Nineteen birds of this species were observed. The first pair were seen when over 300 miles from land on the 26th. They were common on 27 April and numerous in San Francisco Bay.

Sabine Gull

Two birds that were moving northward and presumed migrating were positively identified as Sabine Gulls. On the same day, the 27th, nine other birds were identified as gulls sp. as they were far away and weather conditions were unfavorable. They were small gulls and probably of this species.

Pomarine Jaeger

A total of 10 Pomarine Jaegers were recorded. Four of these were off Oahu. The other six birds appeared to be migrating, and were seen, 2 each day, on 22, 26, and 27 April.

TABLE 1. Summary of diurnal observations, Honolulu to San Francisco, April 1966.

Date	# Hours	# Miles	# Birds	Birds/Linear Mile
18 April	1.5	16.0	262	16.40
19	10.1	101.0	95	0.94
20	10.5	105.0	42	0.40
21	10.0	100.0	26	0.26
22	10.0	100.0	23	0.23
23	10.0	100.0	21	0.21
24	10.0	100.0	13	0.13
25	10.5	105	8	0.08
26	9.8	98.0	24	0.24
27	9.5	95.0	64	0.65
Total	101.9	920.0	578	0.63

TABLE 2. Diurnal densities by species groups from Honolulu to San Francisco, April 1966.

Species Group	# Birds	Birds/ Linear mile
Shearwater-Petrel	311	0.343
Boobies	69	0.075
Frigates	1	0.001
Terns	147	0.160
Tropicbirds	5	0.005
Miscellaneous	<u>45</u> 578	<u>0.049</u> 0.633

TABLE 3. Diurnal Densities by species between Honolulu and San Francisco, April 1966.

Species	# Birds	Birds/Linear Mile
Laysan Albatross	8	0.008
Black-footed Albatross	71	0.077
Wedge-tailed Shearwater	106	0.115
Sooty Shearwater	67	0.073
<u>Pterodroma externa</u>	1	0.001
<u>Pterodroma sp.</u>	3	0.003
Storm Petrel (White rump)	33	0.036
Shearwater-Petrel	22	0.024
Red-tailed Tropicbird	3	0.003
White-tailed Tropicbird	1	0.001
Brown Booby	3	0.003
Red-footed Booby	66	0.072
Great Frigatebird	1	0.001
Shorebird sp.	3	0.003
Sooty Tern	136	0.148
Arctic Tern	1	0.001
Common Noddy Tern	7	0.007
Herring Gull	19	0.020
Sabine Gull	2	0.002
Tern sp.	3	0.003
Gull sp.	9	0.010
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Bird sp.	2	0.002
Pomarine Jaeger	<u>10</u>	<u>0.011</u>
	578	0.625

Pet 100

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Bird sp.	2	0.002
Pomarine Jaeger	<u>10</u>	<u>0.011</u>
	578	0.625

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 18 April 66

TIME	LAT	LONG	PRES	WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100																
0200																
0300																
0400																
0500																
0600																
0700																
0800																
0900																
1000																
1100																
1200																
1300																
1400																
1500																125 / 10.6
1600	21.30	58.00														125 / 10.6
1700	21.27	57.55														125 / 10.6
1800	21.21	57.45														125 / 10.6
1900	21.14	57.35														65 / 10.6
2000	21.08	57.23														65 / 10.6
2100	21.06	57.14														65 / 10.6
2200	21.02	57.05														65 / 10.6
2300	21.32	56.54														65 / 10.6
2400	21.43	56.43														

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE

19 April

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100	21.48	156.32	PARTLY CLDY	8	1014.6	70			20%	2000	1'	77	12	310	054°/10.6
0200	21.53	156.21	"	8	1013.9	70			20%	2000	1'	78	11	310	054°/10.6
0300	21.58	156.14	"	8	1013.2	70			20%	2000	1'	74	15	282	054°/10.6
0400	22.03	156.07	"	8	1012.9	70			80%	2000	1'	75	15	284	054°/10.6
0500	22.08	156.00	"	8	1012.5	69			70%	2000	1'	75	12.5	295	054°/10.6
0600	22.12	155.53	"	8	1013.2	70			60%	2000	1'	75	15	270	054°/10.6
0700	22.20	155.46	"	10	1013.5	73	67.8	86%	60%	2000	1'	78	14	270	054°/10.6
0800	22.30 N	155.38 W	o/c	10	1013.5	69	67.1	95%	100%	2000	1'	78	26	167	054°/10.6
0900	22.26	155.30	PARTLY CLDY	10	1013.2	69	67.1	95%	90%	2000	2'	78	23	170	054°/10.6
1000	22.40	155.22	o/c	8	1012.9	69	66.1	90%	100%	2000	2'	78	26	182	054°/10.6
1100	22.46	155.14	PARTLY	8	1012.3	69	66.1	90%	90%	2000	2	78	26	170	054°/10.6
1200	22.54 N	155.00 W	o/c	10	1012.2	67	66.1	90%	100%	2000	5	77	31	345	055°/10.6
1300	23.00	154.53	PARTLY	10	1011.5	69	66.1	90%	80%	2000	5	77	34	345	055°/10.6
1400	23.06	154.40	PARTLY	10	1011.5	69	66.1	90%	80%	2000	6	77	31	345	055°/10.6
1500	23.12	154.33	PARTLY	10	1011.5	69	66.1	90%	80%	2000	6	77	34	320	055°/10.6
1600	23.19	154.26													
1700	23.25	154.19													
1800	23.32	154.12													
1900	23.37	154.05													
2000	23.40 N	153.58 W	PARTLY CLDY	10	1010.8	66	50	56%	60%	2000	8	75	27	300	053°/10.6 KTS
2100			PARTLY CLDY	10	1011.5	68	53	53%	70%	2000	10	76	26	310	056°/10.6 KTS
2200			PARTLY CLDY	10	1011.2	68	53	53%	50%	2000	10	76	24	310	056°/10.6 KTS
2300			PARTLY CLDY	10	1010.5	68	53	53%	50%	2000	10	72	25	305	056°/10.6 KTS
2400			PARTLY CLDY	10	1009.5	67	57.3	71%	50%	2000	2	73	24	260	056°/10.6

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

2/10
2/10
2/10

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 20 APRIL 1966

Swallow - 8.12 RLO

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			PARTLY CLDY	10	1007.1	67	55.5	67%	50%	2000	2'	75	18	240	056°/10.6
0200			" "	10	1008.1	69	54.1	59%	40%	2000	2'	75	28	262	056°/10.6
0300			" "	10	1008.1	68	54.8	62%	30%	2000	3'	77	29	250	056°/10.6
0400			" "	10	1007.9	68	54.8	62%	30%	2000	3'	76	27	266	056°/10.6
0500			" "	10	1007.9	69	67.6	85%	40%	2000	3'	77	34	250	056°/10.6
0600	24°-30	152°-26	" "	10	1007.1	69	67.6	85%	40%	2000	3'	77	16	236	056°/10.6
0700	24°-36	152°-19	" "	10	1007.1	69	67.6	75%	60%	2000	7'	77	16	234	056°/10.6
0800	24°-42N	152°09W	" "	10	1007.1	62	67.6	75%	80%	2000	13'	77	27	264	056°/10.6
0900	24°-49	151°00	" "	10	1007.1	69.2	61.2	71%	80%	2000	13'	77	25	264	039°/10.6 knots may -
1000	24°-54	151°51	" "	10	1007.1	69.2	61.2	71%	80%	2000	10'	77	28	264	039°/10.6 knots
1100	25°-00	151°42	" "	10	1007.1	69	61.2	72%	40%	2000	8'	78	16	264	039°/10.6 knots may
1200	25°-05N	151°32W	" "	10	1005.8	74	61.2	68%	50%	2000	7'	71	27	238	034°/10.6 knots
1300	25°-10	151°24	" "	10	1005.4	73	58	64%	40%	3000	6'	71	29	208	054°/10.6 knots
1400	25°-16	151°15	" "	10	1004.4	71	61.8	75%	70%	3000	7'	73	33	235	054°/10.6 knots
1500	25°-22	151°07	" "	10	1004.4	71	61.8	75%	80%	2000	6'	75	30	235	054°/10.6 knots
1600	25°-27	150°58	" "	10	1003.1	71	61.8	75%	80%	2000	6'	75	30	235	054°/10.6 knots
1700	25°-33	150°49	PARTLY CLDY	10	1003.1	71	61.8	75%	80%	2000	6'	75	30	235	054°/10.6 knots
1800	25°-38	150°41	PARTLY CLDY	10	1003.1	69	62.8	81%	60%	2000	10'	75	30	230	054°/10.6 knots
1900	25°-44	150°31	" "	10	1003.1	69	62.8	81%	60%	2000	10'	75	26	262	054°/10.6 knots
2000	25°-50N	150°22W	" "	10	1004.7	67	60.4	82%	60%	2000	10'	77	27.5	285	054°/10.6 knots
2100			" "	10	1004.7	64	59.3	85%	60%	2000	10'	78	35	285	054°/10.6
2200			" "	10	1005.8	66	59.7	80%	60%	2000	10'	74	26	280	054°/10.6
2300			" "	10	1006.1	67	57.3	71%	60%	2000	6'	74	20	286	058°/10.6
2400			" "	10	1006.1	67	59.7	80%	60%	2000	6'	75	15	284	054°/10.6

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE April 21 1966

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			Partly CLDY	10	1006.8	67	65	93%	60%	2000	4	75	12	310	058/10.6
0200			" "	10	1006.8	69	67.1	94%	50%	3000	4	75	20	265	058/10.6
0300															
0400			Partly	10	1006.8	68	67	94	30%	2000	6	75	15	325	058/10.6
0500			Partly	10	1006.8	68	67	94	30%	2000	6	75	14	308	058/10.6
0600	26° 34'	148° 56'	" "	10	1007.1	69	67.1	95%	30%	2000	5	75	16	240	058/10.6
0700	26° 38'	148° 48'	" "	10	1007.5	69	67.1	95%	30%	2000	4	75	17	240	058/10.6
0800	26-42 N	148-40 W	" "	10	1008.8	72	72.9	75%	60%	2000	5	76	14	230	058/10.6 KTS
0900	26-46	148-31	" "	10	1009.1	73	72.4	77%	70%	2000	5	75	11	220	058/10.6 KTS
1000	26-50	148-22	" "	10	1009.7	75	72.3	78%	70%	2000	10	73	11	210	058/10.6 KTS
1100	26-56	148-12	" "	10	1011.2	77			50%	2000	10	73	15	216	056/10.6 KTS
1200	27 00 N	148-04 W	Partly CLDY	10	1011.2	72	57.5	60%	50%	2000	3	73	15	160	056/10.6
1300	27 05	147-56	Partly CLDY	10	1010.5	74	60	62%	50%	2000	4	73	19	170	055/10.6
1400	27 10	147-48	Partly CLDY	10	1010.5	71	58.5	64%	30%	2000	3	74	12	140	055/10.6
1500	27 15	147-40	Partly CLDY	10	1010.5	71	58.5	64%	30%	2000	3	74	14	145	055/10.6
1600	27 20	147-32	Partly CLDY	10	1010.2	70	58.6	65%	20%	2000	3	74	24	170	055/10.6
1700	27 25	147-26	Partly CLDY	10	1009.8	68	63.3	81%	40%	4000	8	74	18.5	181	055/10.6 KTS
1800	27 30	147-18	Partly CLDY	10	1010.8	70	62.3	78%	40%	4500	7	74	18.0	189	055/10.6 KTS
1900	27 35	147-09	Partly CLDY	10	1011.5	70	64.0	81%	40%	4500	7	72	20	165	055/10.6 KTS
2000	27-40 N	147-00 W	" "	10	1012.2	71	65.1	81%	40%	4000	7	73	17	147	055/10.6 KTS
2100			" "	10	1013.1	69	67.1	95%	40%	4000	7	72	16	160	055/10.6 KTS 061/10.6
2200			" "	10	1014.1	69	67.1	95%	40%	4000	7	72	22	174	055/10.6 KTS 061/10.6
2300			" "	10		69	67.1	95%	40%	4000	7	72	22	175	061/10.6 KTS
2400			" "	10	1014.1	69	67.1	95%	40%	4000	6	72	21	175	061/10.6 KTS

REMARKS:

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056-057

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 22 April

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			Partly	10	1014.1	69	67.1	95%	30%	4000	3	72	19	144	061/10.6 KTS
0200			Partly	10	1014.1	69	67.1	92%	30%	4000	3	72	23	130	061/10.6 KTS
0300			"	10	1014.1	69	67.1	92%	30%	4000	3	72	20	130	061/10.6 KTS
0400			Partly Cloudy	10	1013.2	69	67.1	92%	30%	3000	3	72	16	145	061/10.6 KTS
0500			Partly Cloudy	10	1013.9	69	67.1	92%	40%	3000	3	70	16	145	061/10.6 KTS
0600	28.33	145.29	Partly Cloudy	10	1013.9	68	65	91%	60	3000	6	70	16	145	061/10.6 KTS
0700	28 43	145 22	Partly Cloudy	10	1014.6	69	64.5	84%	90%	1500	6	70	21	145	061/10.6 KTS
0800	28 48N	145 12W	Partly Cloudy	10	1015.2	69	66	84%	90	2000	4	71	19	161	061/10.6 KTS
0900	28 53	145 02	Partly Cloudy	10	1015.4	70	65.5	84%	86	2000	4	71	11	146	061/10.6 KTS
1000	28 58	144 52	Partly Cloudy	10	1016.6	69	64.5	85%	85	1000	5	71	15	146	060/10.6 KTS
1100	29 03	144 42	Partly Cloudy	10	1016.6	69	64.5	85%	90%	1000	5	71	13	150	060/10.6 KTS
1200	29 08N	144 38W	"	10	1016.3	72	67.6	86%	90%	3000	SC	72	18	150	060/10.6
1300	12	44 26	"	10	1016.9	69	62.9	81%	90%	3000	SC	74	16	155	062/10.6
1400	17	44 17	"	10	1016.9	67	64.0	90%	90%	3000	SC	74	27	145	062/10.6
1500	22	44 07	"	8	1015.9	66	62.9	87%	100%	3000	SC	71	23	157	062/10.6
1600	27	43 58	OVC	8	1015.9	66	62.9	87%	100%	3000	7	71	30	140	062/10.6
1700	32	43 49	OVC	8	1015.9	66	62.9	87%	100%	3000	7	72	32	136	062/10.6
1800	36	43 40	OVC	4	1016.1	66	62.9	87%	100%	2000	7	72	34	130	062/10.6
1900	39	43 30	OVC	5	1016.9	66	62.9	87%	100%	2000	7	72	31	90	062/10.6
2000	29 41N	143 17W	OVC	3	1018.0	65	63.5	95%	100%	1000	15	71	34	093	062/10.6
2100			OVC	3	1018.0	65	63.5	95%	100%	1000	15	71	35	095	060/10.6
2200			OVC	5	1019.6	67	63.9	89%	100%	1000	15	71	21.5	097	060/10.6
2300			OVC	7	1019.3	67	63.9	89%	100%	1000	15	71	21	096	060/10.6
2400			OVC	4	1020.0	68	63.3	87%	100%	1000	15	71	38	130	060/10.6

REMARKS:

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WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 23 APR 64

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			overcast	4	1021.0	67	64	90%	100	1000	13	71	145	145	060/10.6 KTS
0200			overcast	4	1021.0	67	64	90%	100	1000	13	71	30	145	060/10.6 KTS
0300			"	4	1021.0	67	64	90%	100	1000	12	71	25	125	060/10.6 KTS
0400			"												
0500			"	3	1021.6	69	64	90%	100	1000	14	70	33	095	060/10.6 KTS
0600	30 49	141-36	"	3	1022.0	69	64	90%	100	1000	14	70	33	095	060/10.6 KTS
0700	30-48	141-35	"	5	1022.0	66	61.3	85%	100	1000	10	70	110	17	060/10.6
0800	30-54N	141-28 W	"	5	1022.7	71	63.4	80%	100	1000	7	70	122	17	072/10.6
0900	30 58	141-16	"	5	1023.0	68	61.8	80%	100	1000	8	72	122	23	072/10.6
1000	31 02	141-06	"	4	1022.4	68	60.1	76%	100	1000	10	72	114	25	072/10.6
1100	31 06	140-55	"	7	1022.4	64	61.2	76%	100	1000	10	70	090	25	072/10.6
1200	31-10N	140-45 W	"	7	1022.4	62	61.2	76%	100	1000	10	70	115	23	071/10.6
1300	31 14	140-35	"	7	1022.4	62	61.2	76%	100	1000	10	70	115	23	071/10.6
1400	31 18	140-25	"	7	1022.7	70	62.1	77%	100	1000	10	70	116	22	071/10.6
1500	31 22	140-15	"	7	1022.0	68	60	76%	100	1000	6'	70	23	115	071/10.6
1600	31 26	140-05	"	7	1021.0	67	60.7	81%	100	1000	8'	70	25	105	071/10.6
1700	31 30	139-55	"	7	1020.7	67	60.7	81%	100	1000	8'	70	23	105	063/10.6
1800	31 36	139-45	"	7	1020.7	66	61.3	85%	90	1000	8'	70	23	105	063/10.6
1900	31-41N	139-35	"	7	1021.3	66	61.3	85%	90	1000	8'	70	20	105	063/10.6
2000	31-41N	139-21 W	"	7	1022.7	65	58.5	83%	100	1000	5'	68	125	120	065/10.6 KTS
2100			PARTLY CLDY	7	1022.7	65	58.5	83%	100	1000	6'	70	15	107	065/10.6 KTS
2200			PARTLY OVC	5	1022.7	65	58	78%	100	1000	6'	70	12.5	092	065/10.6 KTS
2300			OVERCAST	7	1022.7	65	56.9	78%	100	1500	5'	68	12.5	092	065/10.6 KTS
2400			PARTLY	7	1024.0	65	56.7	78%	100	1500	5	68	14	092	065/10.6 KTS

REMARKS:

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WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 24

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			PARTLY	7	1024.0	65	56.8	78%	60%	1500	5	68	12	092	068/10.6 KTS
0200			" "	6	1023.9	65	56.9	78%	80%	1500	4	68	11	100	068/10.6 KTS
0300			" "	6	1023.9	65	56.9	78%	90%	1500	4	68	10	100	068/10.6 KTS
0400			" "	6	1023.4	65	56.8	75%	90%	1500	4	68	10	100	065/10.6
0500			OVERCAST	6	1022.7	65	56.8	75%	100%	1500	4	68	10	110	065/10.6
0600	32-25	137-50	PARTLY CLD	7	1022.4	66	56.3	62	90%	1500	4	68	17	082	065/10.6
0700	32-31	137-42	" "	7	1023.0	65	55.1	72	90%	1500	4	68	11	105	065/10.6
0800	32-33 N	137-34 W	OVC	7	1023.9	65	55.1	72	100%	1500	4	71	14	091	070/10.6
0900	32-35	137-26	OVC	7	1024.1	68	56.9	75%	100%	1500	4	69	16	095	070/10.6
1000	32-36	137-14	OVC	7	1024.9	68	56.9	75%	100%	1500	7	70	15	095	070/10.6
1100	32-37	137-04	OVC	8	1026.1	68	56.9	75%	100%	1500	4	70	8	128	070/10.6
1200	32-38 N	136-54 W	BKN	8	1025.4	69	56.9	75%	90%	1500	4	70	8	140	070/10.6
1300	32-28	136-42	BKN	8	1025.9	69	56.9	75%	80%	1500	4	70	8	128	070/10.6 KTS
1400	32-18	136-30	" "	8	1025.4	69	56.9	75%	80%	1500	4	70	10	090	070/10.6
1500	32-08	136-18	BROKEN	8	1023.0	68	55.4	68%	90%	1500	4	68	12.5	070	070/10.6 KTS
1600	33-58	136-07	BKN	8	1023.0	67	54.5	69.5%	90%	2000	6'	67	13.3	061	070/10.6 KTS
1700	33-48	135-57	OVERCAST	7	1023.4	64.5	54.5	75%	100%	1500	6'	66	11.3	070	070/10.6 KTS
1800	33-38	135-47	OVERCAST	7	1024.0	60	55.5	79%	100%	2000	6'	62	13.4	070	070/10.6 KTS
1900	33-28	135-37	OVC	7	1024.0	59	52	77%	100%	1500	2'	66	12	070	070/10.6 KTS
2000	33-14 N	135-25 W	OVC	7	1024.7	59	52	77%	100%	1500	2'	66	13	080	070/10.6 KTS
2100		135-15	OVC	7	1025.1	59	52	77%	100%	1500	2'	66	15	080	070/10.6 KTS
2200			OVC	7	1025.1	59	52	77%	100%	1500	3'	66	15	080	070/10.6 KTS
2300			OVC	7	1025.4	61	53°	75%	100%	1500	3'	65	14	064	064/10.6 KTS
2400			OVC	7	1025.4	61	50	84%	100%	1500	3	65	10	080	064/10.6 KTS

REMARKS:

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SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 25 APRIL 66

0900 Swells 4-8 kts
1600 Swells 8-12 kts

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100			OVERCAST	7	1025.4	62	57.1	84%	100%	1500	3'	68	11		
0200			OVERCAST	7	1025.4	59	56.5	94%	100%	1500	3'	65	14		
0300			OVERCAST	7	1025.1	59	56.5	91%	100%	1500	3'	65	14		
0400			OVERCAST	7	1025.1	61	62.5	77%	100%	1500	3'	65	11	064	10.6 KTS
0500			OVERCAST	10	1025.1	67	62.5	77%	100%	1500	3'	60	18	064	10.6 KTS
0600	33-55	133-45	OVC	10	1025.1	62	56.5	81%	100%	1500	3'	60	10	064	10.6 KTS
0700	34-00	133-35	OVC	10	1026.1	62	56.5	83%	100%	1500	3'	60	14	110	10.6 KTS
0800	34-03N	133-25W	OVC	10	1026.1	62	56.5	83%	100%	1500	3'	60	14	064	10.6 KTS
0900	34-08	133-14	OVC	10	1026.1	62	56.5	83%	100%	1500	3'	60	16	064	10.6 KTS
1000	34-14	133-02	OVC	10	1026.1	61	52.4	75%	100%	1500	3'	60	14	065	10.6-065
1100	34-19	132-50	OVC	10	1025.9	61	52.4	73%	80%	1520	8'	80	16	065	10.6-065
1200	34-25N	132-38W	OVC	10	1026.4	64	54.1	75%	100%	2000	7'	64	15	048	065°/10.6 KTS
1300	34-28	132-28	OVC	10	1026.1	68.5	54.5	67%	100%	2000	7'	64	17.5	029°	065°/10.6 KTS
1400	34-31	132-18	OVC	10	1026.1	61	50.5	75%	100%	2000	6' 100	68	17.5	029°	065°/10.6 KTS
1500	34-34	132-08	OVC	10	1025.4	63	52.7	75%	100%	2000	6' 100	64	21	014	065°/10.6 KTS
1600	34-37	131-58	OVC	10	1024.7	58	52.8	83%	100%	1500	8'	64	19	005	065°/10.6 KTS
1700	34-40	131-48	OVC	10	1025.1	58	51	77%	100%	1500	8'	64	23	050	065°/10.6
1800	34-43	131-38	OVC	10	1024.7	58	51	77%	100%	1500	8'	64	22	050	065°/10.6
1900	34-46	131-30	OVC	10	1024.4	58	51	77%	100%	1500	8'	64	20	040	065°/10.6
2000	34-49N	131-22W	OVC	10	1025.4	60	51.3	73%	100%	1500	8'	65	23	001	065°/10.6
2100			OVC	10	1026.1	59	52.0	77%	100%	1500	8'	65	23	001	065°/10.6
2200			OVC	10	1026.1	59	52.0	77%	100%	1500	8'	65	17	006	065°/10.6
2300			OVC	10	1026.4	58	52.8	82%	100%	1500	8'	63	23	002	065°/10.6
2400			OVC	10	1025.4	58	52.9	82%	100%	1500	9'	63	27	001	065°/10.6

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND-S	WIND D	SHIP COURSE/SPD.
0100			OVC	10	1026.4	57	54	89%	100%	1500	8	63	17	358	065/10.6
0200			OVC	10	1026.4	57	54	95%	100%	1500	8	63	18	358	065/10.6
0300			OVC	10	1026.4	57	54	89%	100%	1500	8	63	24	003	065/10.6
0400			OVC	8	1026.4	57	49	85%	100%	1500	7	63	22	004	065/10.6
0500			OVC	8	1025.4	59	59.5	72%	100%	1500	6	62	34	077	065/10.6
0600	35-25	129-52	OVC	10	1025.4	58	59.5	72%	100%	1500	6	62	34	077	065/10.6
0700	35-26	129-41	OVC	10	1025.4	58	45.4	75%	100%	1500	8	62	36	027	065/10.6
0800	35-30 N	129-33	OVC	10	1026.1	58	45.4	75%	100%	1800	11	62	20.5	045	069/10.6 KTS
0900	35-34	129-25	OVC	10	1025.4	57	46	74%	100%	2000	10	62	21.5	045	069/10.6 KTS
1000	35-38	129-15	OVC	10	1027	54	44.5	79%	80%	2000	10	62	26	010	069/10.6 KTS
1100	35-42	129-05													
1200	35-46 N	128-53	BKN	10	1025.4	55	45.5	70%	80%	2000	15	62	28	045	069/10.6 KTS
1300	35-47	128-45	BKN	10	1025.4	55	45.5	70%	90%	2000	15	62	27	045	069/10.6 KTS
1400	35-48	128-35	BKN	10	1024.0	55	45.5	70%	90%	2000	15	62	30	020	069/10.6 KTS
1500	35-49	128-25	BKN	10	1023.4	55	45.5	70%	60%	2000	15	62	26	020	069/10.6 KTS
1600	35-50	128-15	PARTLY CLDY	10	1023.4	57	45.5	84%	60%	2000	15	62	30	340	069/10.6 KTS
1700	35-51	128-10	" "	8	1023.0	55	45.5	70%	80%	2000	18	62	31	010	069/10.6
1800	35-52	128-02	" "	8	1022.0	61	50.5	68%	90%	2000	18	62	35	020	069/10.6
1900	35-53	127-58	" "	8	1022.4	62	55.3	79%	80%	2000	18	62	31	084	059/10.6
2000	35-54 N	127-54	" "	8	1022.7	58	54.6	88%	90%	2000	18	58	32	344	058/10.6
2100			" "	8	1022.4	58	54.6	85%	90%	2000	18	58	32	344	058/10.6
2200			" "	8	1022.0	58	54.6	89%	90%	2000	18	58	34	356	065/10.6
2300			" "	8	1020.7	54	51	89%	90%	2000	18	58	35	334	060/10.6
2400			" "	8	1020.0	58	51	99%	90%	2000	18	60	35	066	060/10.6

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS

1600 Swells
16-18
R20

SI-MNH-955b
Rev. 4-9-64

SMITHSONIAN INSTITUTION
DIVISION OF BIRDS
AT SEA CLIMATOLOGICAL DATA

DATE 27 April 66

TIME	LAT	LONG	PRES WEA	VIS	SLP	DRY B	DEW PT	HUM %	TL SKY	OPA SKY	WAVES	SEA TEMP	WIND S	WIND D	SHIP COURSE/SPD.
0100															
0200															
0300															
0400															
0500															
0600															045 / 10
0700	36.21N	126.40W													045 / 10
0800	36.25	126.31													045 / 10
0900	36.28	126.22													045 / 10
1000	36.31	126.13													045 / 10
1100	36.34	126.04													045 / 10
1200	36.37	125.53													045 / 10
1300	36.40	125.44													045 / 10
1400	36.43	125.34													045 / 10
1500	36.47	125.24													045 / 10
1600	36.50	125.14													045 / 10
1700	36.53	125.04													045 / 10
1800	36.56	125.54													045 / 10
1900	36.59	125.44													045 / 10
2000	37.02N	124.34W													
2100															
2200															
2300															
2400															

REMARKS:

ALL TIMES LOCAL (WHISKEY); WIND DIR. IN WHOLE DEGREES; WIND SPEED IN KNOTS; TEMPERATURES IN FAHRENHEIT; VISIBILITY IN NAUTICAL MILES;
WAVES IN WHOLE DEGREES; WAVE PERIOD IN SECONDS; WAVE HEIGHT IN WHOLE FEET; SEA LEVEL PRESSURE IN MILLIBARS